

Table 1

| Organism | Regulatory proteins | Signal molecule | Phenotype |
|------------------------------------|-------------------------|----------------------------------|--|
| <i>Aeromonas hydrophila</i> | AhyI/AhyR | BHL, HHL | serine protease, metalloprotease |
| <i>Aeromonas salmonicida</i> | AsaI/AsaR | BHL, HHL | ? |
| <i>Agrobacterium tumefaciens</i> | TraI/TraR | HHL, OOHl | conjugation |
| <i>Burkholderia cepacia</i> | CepI/CepR | OHL | ornibactin, siderophores, exoprotease |
| <i>Chromobacterium violaceum</i> | CviI/CviR | HHL | antibiotics, violacein, exoenzymes, cyanide |
| <i>Erwinia carotovora</i> | CarI/CarR ExpI/ExpR | OHHL +? | carbapenem antibiotic exoenzymes |
| <i>Erwinia chrysanthemi</i> | ExpI/ExpR | OHHL, HHL | pectate lyase |
| <i>Escherichia coli</i> | ?/SdiR LuxS/? | ? AI-2 | cell division ? |
| <i>Pantoea stewartii</i> | EsaI/EsaR | OHHL | Exopolysaccharide |
| <i>Pseudomonas aeruginosa</i> | LasI/LasR RhlI/RhlR | OdDHL, OHHL, OOHl BHL, HHL | Virulence factors inc: alkaline protease, elastase exotoxin A Chitinase, pyocyanin, rhamnolipid |
| <i>Pseudomonas aureofaciens</i> | PhzI/PhzR | BHL, HHL | Phenazine antibiotic |
| <i>Pseudomonas fluorescens</i> | PhzI/PhzR | OHL, HHHL, HOHL, HDHL | Phenazine antibiotic |
| <i>Ralstonia solanacearum</i> | SolI/SolR | HHL, OHL | ? (aidA) |
| <i>Rhizobium leguminosarum</i> | RhiI/RhiR | HHL, OHL | Nodulation |
| <i>Rhodobacter sphaeroides</i> | CerI/CerR | ? | Community escape EPS expression |
| <i>Serratia liquifaciens</i> | SwrI/? | BHL, HHL | Swarming, phospholipase |
| <i>Vibrio anguillarum</i> | VanI/VanR | ODHL | ? |
| <i>Vibrio fischeri</i> | LuxI/LuxR AinS/AinR | OHHL, HHL OHL | Bioluminescence |
| <i>Vibrio harveyi</i> | LuxI/LuxR LuxPQ/LuxS | HBHL AI-2 | bioluminescence |
| <i>Xenorhabdus nematophilus</i> | ? | HBHL | Virulence factors |
| <i>Yersinia enterocolitica</i> | YenI/YenR | HHL, OHHL | ? |
| <i>Yersinia pestis</i> | YpeI/YeR | HHL, OHHL | Pathogenicity |
| <i>Yersinia pseudotuberculosis</i> | YpsI/YpsR YtbI/YtbR | HHL, OHHL OHL | Flagella production ? |
| <i>Bacillus anthracis</i> | ? | AI-2 | Virulence factors |

2/12

Figure 1a.

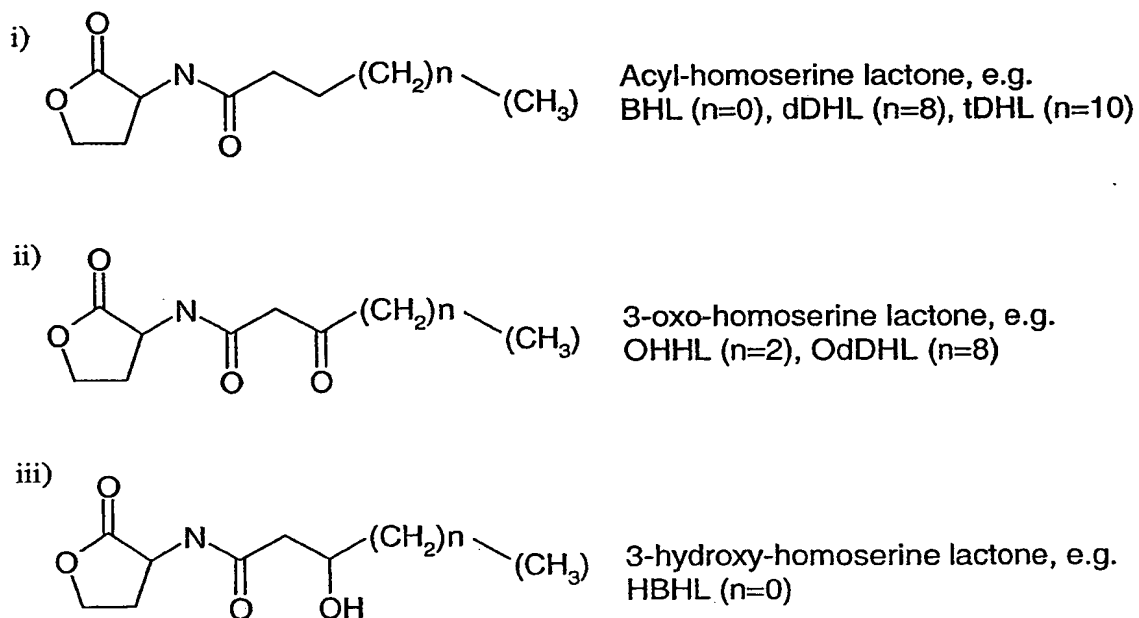
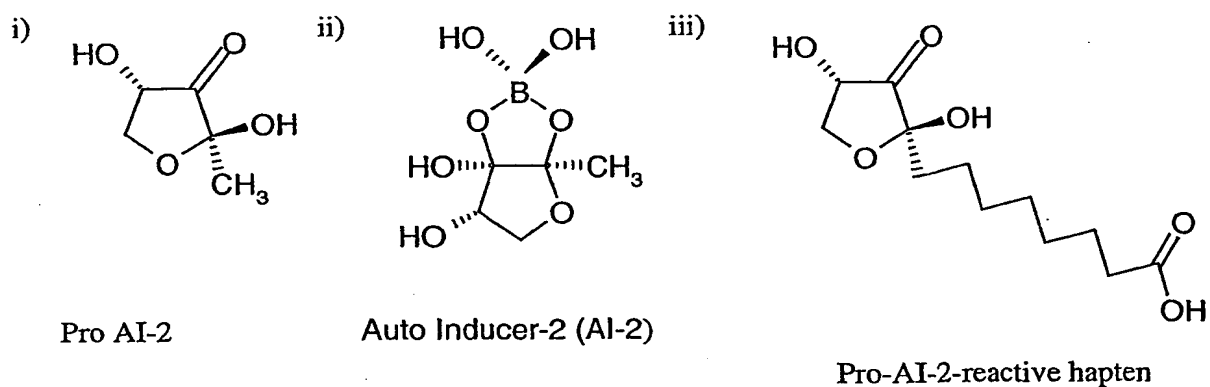
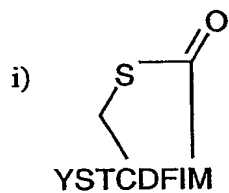


Figure 1b.

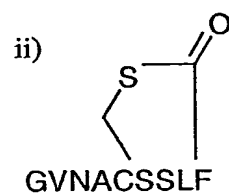


3/12

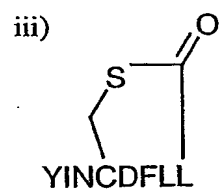
Figure 1c.



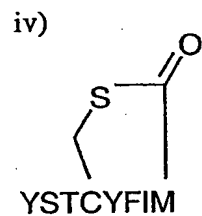
Agr D1 Thiolactone



Agr D2 Thiolactone



Agr D3 Thiolactone



Agr D4 Thiolactone

4/12

Table 2.

| scAb | dDHL-COOH | tDHL | OHHL | dDHL-BSA | Paraquat |
|-------|------------|------------|-------|--------------|----------|
| G3G2 | 11 μ M | 21 μ M | 17 mM | 0.28 μ M | N/D |
| G3B12 | 4 μ M | 5 μ M | 2 mM | 0.32 μ M | N/D |

N/D indicates that no IC₅₀ value could be determined.

Table 3.

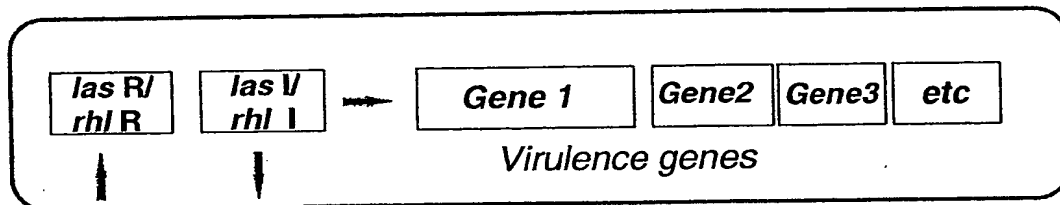
| scAb | k_a (mol l ⁻¹ s ⁻¹) | k_d (s ⁻¹) | K_A (mol/l) | K_D (nM) |
|-------|--|--------------------------|--------------------|------------|
| G3G2 | 4.19×10^4 | 1.43×10^{-3} | 2.93×10^7 | 34.1 |
| G3B12 | 3.93×10^4 | 1.56×10^{-3} | 2.52×10^7 | 39.7 |

Table 4.

| scAb | BHL | dDHL | tDHL | OHHL | Paraquat |
|-------------------|------------------------------|----------------------------------|----------------------------|------------------------|----------|
| G3B12 | 17 mM | 1.4 mM | 4.5 mM | 10 mM | N/D |
| L1-A7 (G3B12) | 1.25 mM ($\times 13.6$) | 40 μ M ($\times 35$) | - | - | N/D |
| L1-B7 (G3B12) | - | 130 μ M ($\times 10.8$) | - | - | N/D |
| L1-C11 (G3B12) | - | 200 μ M ($\times 7$) | - | - | N/D |
| G12 (G3B12) | 3 mM ($\times 5.7$) | - | 0.6 mM ($\times 7.5$) | 5 mM ($\times 2$) | N/D |

5/12

Figure 2.

**regulation**

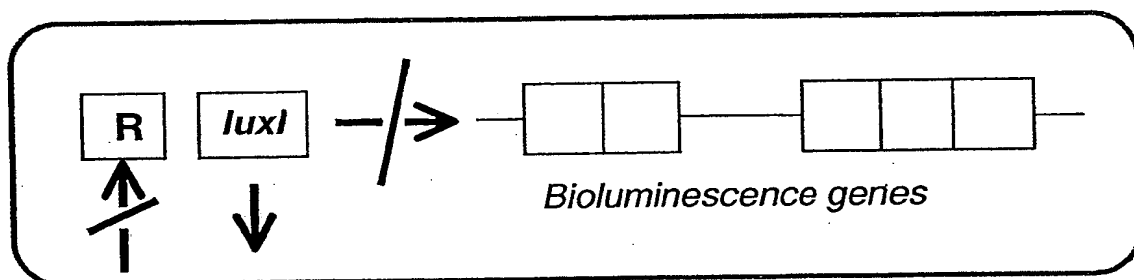
las I/rhl I

Produce long chain (*las I*) and short chain (*rhl I*) HSLs

las R/rhl R

Respond to long chain (*las R*) and short chain (*rhl R*) HSLs

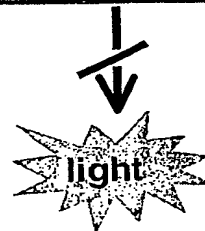
Figure 3.



Anti-HSL antibodies stop gene expression by preventing HSL from binding to receptors

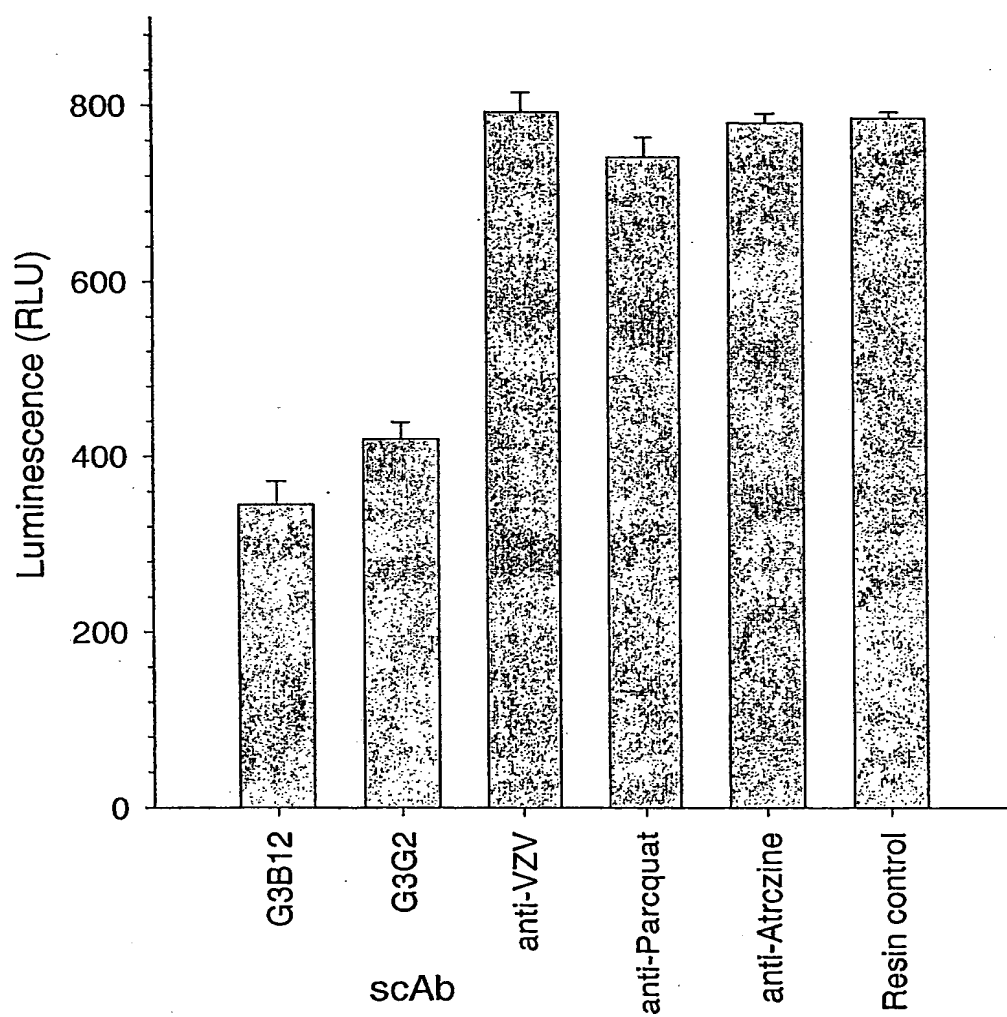
R

P. aeruginosa (lasR)



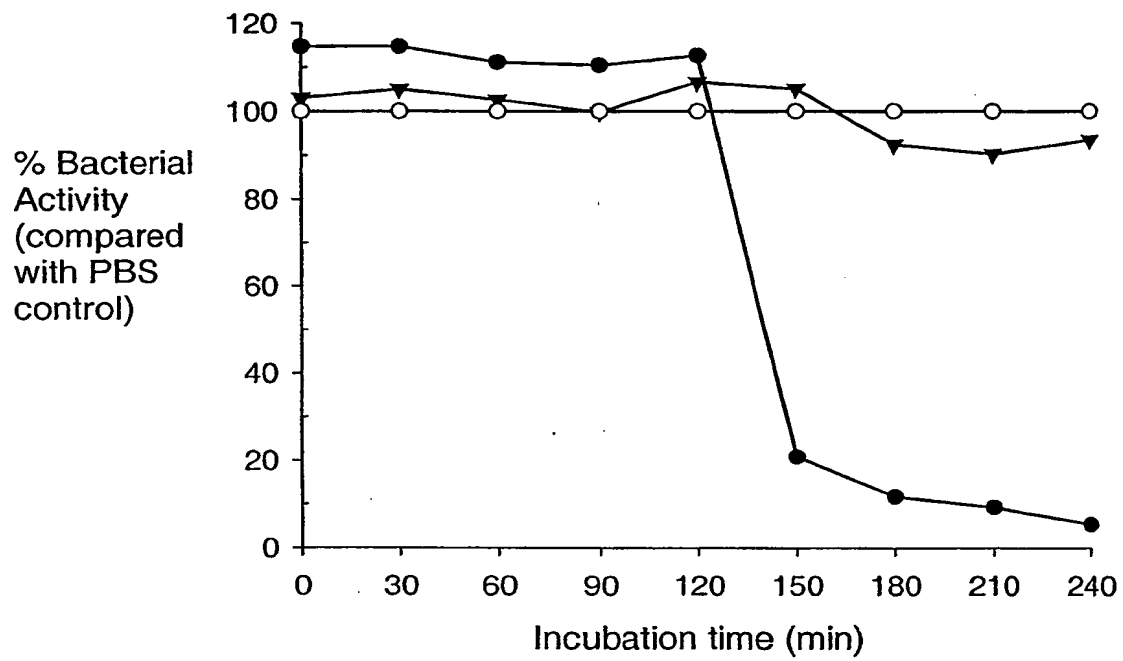
6/12

Figure 4.



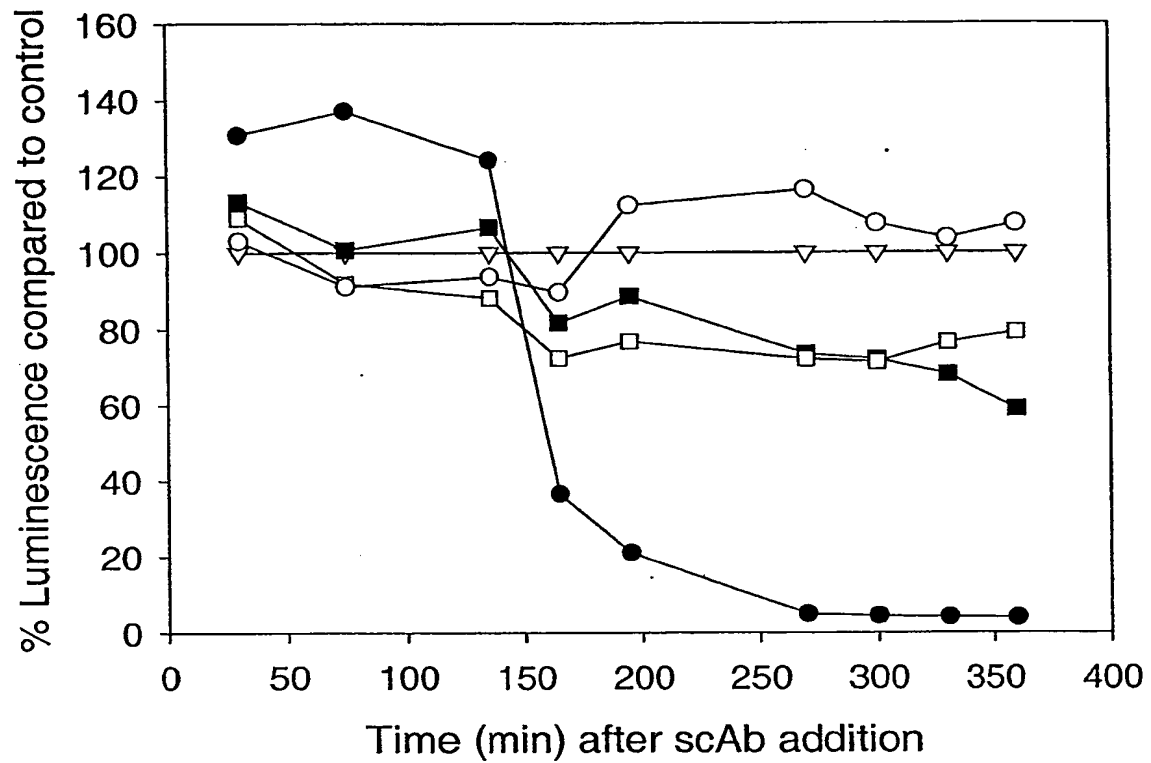
7/12

Figure 5.



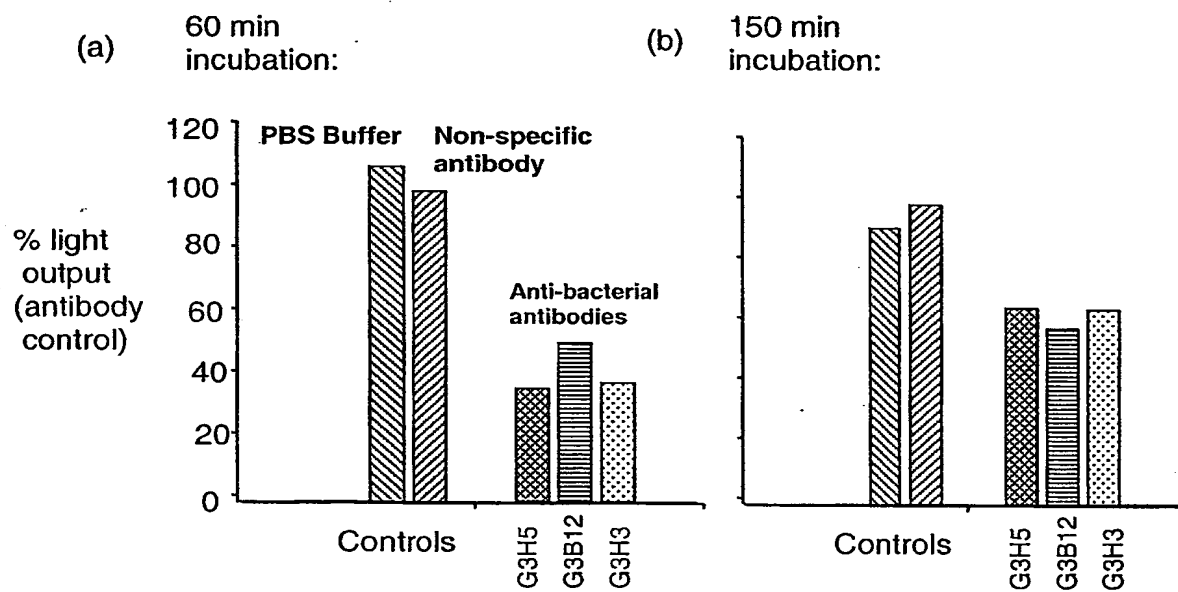
8/12

Figure 6.



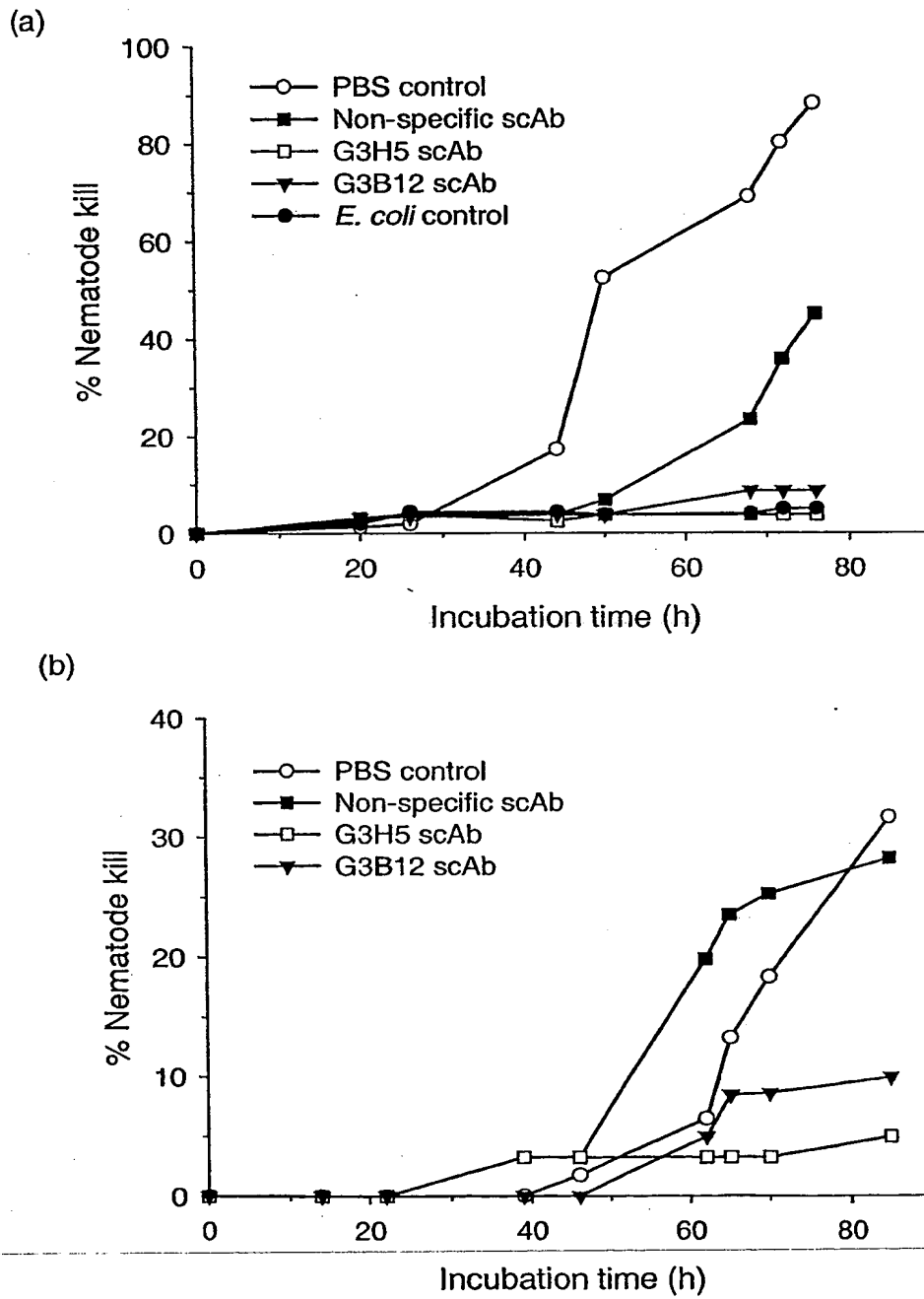
9/12

Figure 7.



10/12

Figure 8.



11/12

Table 5.

| High Optical density | | | | | | Low density | |
|----------------------|-------------|--------------|------|-------|------|-------------|----------------|
| Inc Days | PBS Control | Control scAb | G3H5 | G3B12 | G3H3 | PBS Control | 3 scAb mixture |
| 1 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 2 | 100 | 100 | 100 | 100 | 100 | 100 | 82 |
| 3 | 100 | 95 | 70 | 68 | 84 | 100 | 75 |
| 4 | 100 | 100 | 58 | 52 | 65 | 100 | 65 |
| 5 | 100 | 95 | 52 | 47 | 49 | 100 | 56 |

12/12

Figure 9.

